CLAIMS:

1. Device for digitally processing a sensor signal from a sensor, the sensor signal comprising an information signal component representing information and a further signal component not representing information,

the device comprising a signal conditioning circuit for receiving the sensor signal and outputting a conditioned sensor signal, and an analog to digital converter (33) for converting the conditioned sensor signal to a digital sensor signal to be processed, the signal conditioning circuit comprising an analog feedback loop (25) having a loop filter (23) having a transfer function having a first transfer function component for enhancing the information signal component and a second transfer function component for reducing the further signal component.

2. Device as claimed in claim 1, wherein the analog feedback loop (25) comprises a summing element (24) for receiving the sensor signal and an output signal of the loop filter.

3. Device as claimed in claim 1, wherein the first transfer function component is arranged for enhancing in-band signal components in a first frequency band as the information signal component and the second transfer function component is arranged for reducing interference signal components in a second frequency band as the further signal component.

4. Device as claimed in claim 1, wherein the first transfer function component is arranged for enhancing an AC signal component (31) as the information signal component and the second transfer function component is arranged for reducing a DC signal component (32) as the further signal component.

5. Device as claimed in claim 1, wherein the sensor is a microphone unit (3) having an amplifying element, in particular an electret condenser microphone having a field

effect amplifying element, and the second transfer function component is arranged for said reducing by providing a bias current to the amplifying element.

6. Device as claimed in claim 1, wherein the signal conditioning circuit comprises a first analog feedback loop (51, 53) from a first output (Vout1), which first loop includes a first loop filter (52) coupled to a first summing element (65), and a second analog feedback loop (54, 56) from a second output (Vout2), which second loop includes a second loop filter (55) coupled to a second summing element (66), both outputs providing a differential output signal.

7. Audio device, in particular a mobile phone or a hearing aid, comprising a device for digitally processing a sensor signal from a sensor as claimed in any one of the claims 1 to 6, and a microphone unit as the sensor.